

CLAIMS

That which is claimed is:

- 5 1. An isolated toxin from *Karlodinium micrum*.
2. The isolated toxin according to claim 1 comprising a member selected from the group consisting of KmTx 1, KmTx 2, KmTx 3, KmTx 4, KmTx 5 and KmTx 6.
- 10 3. The isolated toxin according to claim 1 comprising KmTx 1, wherein the KmTx 1 toxin is eluted at about 22-24 minutes of reversed phase HPLC elution of *Karlodinium micrum*.
4. The isolated toxin according to claim 1 comprising KmTx 3, wherein the KmTx 3 toxin is eluted at about 16-18 minutes of reversed phase HPLC elution of *Karlodinium micrum*.
- 15 5. The isolated toxin according to claim 1 comprising KmTx 1, wherein the KmTx 1 toxin is eluted at about 22 to 24 minutes of reversed phase HPLC fractions of a concentrated 80% MeOH tC₁₈ elution of *Karlodinium micrum*.
- 20 6. The isolated toxin according to claim 1 comprising KmTx 3, wherein the KmTx 3 toxin is eluted at about 16-18 minutes of reversed phase HPLC fractions of a concentrated 80% MeOH tC₁₈ elution of *Karlodinium micrum*.
7. The isolated toxin according to claim 1 comprising a molecular mass of 1362 daltons.
- 25 8. The isolated toxin according to claim 1 comprising a molecular mass of 1344 daltons.
9. A method of producing a karlotoxin comprising the steps of: a) culturing *Karlodinium micrum* in a medium suitable for production of toxin; and b) isolating the toxin.
- 30 10. The method according to claim 7 comprising a member selected from the group consisting of KmTx 1, KmTx 2, KmTx 3, KmTx 4, KmTx 5 and KmTx 6.
11. The method according to claim 7, wherein the toxin is isolated by separation on a HPLC column.
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12. An antibody which binds a *Karlodinium micrum* toxin.
13. The antibody of claim 12, wherein the *Karlodinium micrum* toxin comprises a member
5 selected from the group consisting of KmTx 1, KmTx 2, KmTx 3, KmTx 4, KmTx 5 and KmTx 6.
14. The antibody of claim 13, wherein the antibody is monoclonal.
15. The antibody of claim 13, wherein the antibody is polyclonal.
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16. The antibody of claim 13, wherein the *Karlodinium micrum* toxin comprises KmTx 1 and is eluted at about 22-24 minutes of reversed phase HPLC elution of *Karlodinium micrum*.
17. The antibody of claim 13, wherein the *Karlodinium micrum* toxin comprises KmTx 3 and is
15 eluted at about 17 - 18 minutes of reversed phase HPLC elution of *Karlodinium micrum*.
18. The antibody of claim 13, wherein the *Karlodinium micrum* toxin comprises a molecular mass of 1362 daltons.
19. The antibody of claim 13, wherein the *Karlodinium micrum* toxin comprises a molecular
20 mass of 1344 daltons.
20. A method of inhibiting a *Karlodinium micrum* toxin comprising contacting an antibody which specifically binds said toxin.
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21. The method of claim 20, wherein the toxin is the toxin comprises a member selected from the group consisting of KmTx 1, KmTx 2, KmTx 3, KmTx 4, KmTx 5 and KmTx 6.
22. The method of claim 20, wherein the toxin is the toxin comprises KmTx 1 and is eluted at
30 about 22-24 minutes of reversed phase HPLC elution of *Karlodinium micrum*.
23. The method of claim 20, wherein the toxin is the toxin comprises KmTx 3 and is eluted at about 17 - 18 minutes of reversed phase HPLC elution of *Karlodinium micrum*.
24. An immunoconjugate comprising a *Karlodinium micrum* toxin linked to an antibody.
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25. The immunoconjugate of claim 24, wherein the toxin comprises a member selected from the group consisting of KmTx 1, KmTx 2, KmTx 3, KmTx 4, KmTx 5 and KmTx 6.

26. The immunoconjugate of claim 25, wherein the antibody is an anti-tumor antibody.

27. A composition comprising the immunoconjugate of claim 25.

28. A composition comprising the immunoconjugate of claim 26.

29. A composition comprising a *Karlodinium micrum* toxin.

30. A composition according to claim 29, wherein the toxin comprises a member selected from the group consisting of KmTx 1, KmTx 2, KmTx 3, KmTx 4, KmTx 5 and KmTx 6.

31. A composition according to claim 29, wherein the toxin comprises KmTx 1 and is eluted at about 22-24 minutes of reversed phase HPLC elution of *Karlodinium micrum*.

32. A composition according to claim 29, wherein the toxin comprises KmTx 3 and is eluted at about 17-18 minutes of reversed phase HPLC elution of *Karlodinium micrum*.

34. A method of treating blooms in an aqueous medium caused by *K. micrum* to reduce mortality rate of fish exposed to the treatment, the method comprising:

introducing an algicidal composition in an effective amount to reduce the level of *K micrum* in the aqueous medium, wherein the algicidal composition comprises potassium permanganate and does not include copper sulfate.

35. A method of screening a candidate substance for ability to bind and/or modulate the activity of *K. micrum* toxin, the method comprising:

contacting the candidate substance with the *K. micrum* toxin to determine the ability of the candidate substance to interact with the *K. micrum* toxin.

36. The method according to claim 35, wherein the *K. micrum* toxin comprises a member selected from the group consisting of KmTx 1, KmTx 2, KmTx 3, KmTx 4, KmTx 5 and KmTx 6.